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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/671,542	09/29/2003	Jen-Chin Wu	WUJE3002/EM	7505

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EXAMINER

MAZZUCA JR, DOUGLAS

ART UNIT	PAPER NUMBER
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3726

DATE MAILED: 02/07/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/671,542

Applicant(s)

WU ET AL.

Examiner

Douglas E. Mazzuca

Art Unit

3726

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 9/29/2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 9/29/2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities:

On page 2, line 17, the word "Morepreferably" should read --More preferably--.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claim1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fialkoff (US Patent No. 3,424,657) in view of applicants admitted prior art (hereinafter 'APA').

Fialkoff discloses: a method of fastening a mold shell with a mold seat, said method comprising the following steps of:
 - a) Forming a metal shell on a model by electrocasting (**column 2 lines 51-54; figure 1 #14, figure 6 #16'**);
 - b) Providing the metal shell with one or more columnar bodies adhered thereto (**figures 1-4 #s 11 and 12, figures6-10 #11' and 12'**);
 - c) Thickening the metal shell by electrocasting so as to embed the base of each of the columnar bodies in the thickened metal shell (**column 3 lines 62-63**);

- d) Separating the metal shell from the model (**column 3 lines 66-69; figure 7**);
- e) Joining the metal shell (**whole of figure 9**) with a mold seat (**figure 10, 23'**) in such a manner that one or more through holes of the mold seat are aligned with the columnar bodies (**figure 10 12' aligned with 25'**).

Fialkoff, however, fails to disclose the act of arc spraying to thicken the electrocasted layer. APA teaches the use of arc spraying to add a thickness to the electrocasted layer (**page 1 lines 17-19**). The purpose of arc spraying is to quickly thicken the shell. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to arc spray over an electrocasted layer in order to quickly thicken the shell.

4. Claims 2-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fialkoff (US Patent No. 3,424,657) in view of applicants admitted prior art (hereinafter 'APA') and further in view of Marmo et al. (US Patent No. 4,740,276). In reference to claims 2-5, although Fialkoff discloses the combining of a mold seat and a mold shell while using hollow tubular objects, Fialkoff, along with APA, fail to disclose the inserted tubular objects being threaded. Marmo et al. teach threading the electroplated tubular columnar recesses (**figures 3 and 5**). The purpose of threading the columnar recess facilitates the attachment of the mold shell (**figure 7, 24**) to a mold seat (**26**) by the use of a bolt (**22**). As can also be seen from figure 7, multiple mold shells can be attached to a mold seat through multiple bolts. The reason for using multiple bolts is to enhance the connection strength between the shell and seat. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to thread

the columnar bodies in the mold shell to facilitate an easier and stronger connection between the mold shell and the mold seat.

5. Regarding claims 6-8, although Fialkoff fails to teach the column bodies being threaded, Marmo et al. teach the column bodies being threaded (**figure 6, 22**).

Furthermore, the threaded rod(s) is held in place by a nut (**figure 7, 19**) through holes in the mold seat (**figure 7, holes in 26; column 6 line 32**). It would have been obvious to one of ordinary skill in the art, at the time of the invention, to use threaded columnar bodies in order to facilitate an easier attachment to the mold seat.

6. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fialkoff (US Patent No. 3,424,657) in view of applicants admitted prior art (hereinafter 'APA') and further in view of Rickerby (US Patent No. 6,376,015). Although Fialkoff and APA teach arc spraying over an electrocasting in order to thicken the shell, they fail to teach arc spraying an interface metal layer in order to enhance the bonding between the electrocasted layer and the arc sprayed layer. However, Rickerby teaches applying a bond coating containing aluminum to help facilitate the connection between two other metal coatings (**column 1 lines 37-39, column 2 lines 23-25, column 5 lines 54-57; figure 3, 44**). Therefore, it would have been obvious to one of ordinary skill in the art, at the time of the invention, to apply an interface metal layer in order to enhance the bonding between the electrocasted layer and the arc sprayed layer.

Conclusion


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Douglas E. Mazzuca whose telephone number is (571)272-7813. The examiner can normally be reached on 7:30AM-4PM Mon-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marc Jimenez can be reached on (571)272-4530. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Douglas Mazzuca
2/2/2006

DEM


MARC JIMENEZ
PRIMARY EXAMINER
2-3-06